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# UNITED STATES PATENT AND TRADEMARK OFFICE

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| ART UNIT | PAPER NUMBER |
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| 2133 | |

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on <u>19 October 2004</u>.

2a)☒ This action is **FINAL.**    2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-11,13-16,18-23,26,28-39,41-47,50,52 and 53* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11,13-16,18-23,26,28-39,41-47,50,52 and 53* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>23 August 2000</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

# DETAILED ACTION

## *Drawings*

1.      In view of the amendment filed 10/19/2004, the objections to the drawing

are withdrawn.

## *Specification*

2.      In view of the amendment filed 10/19/2004, the objections to the abstract

are withdrawn.

## *Response to Arguments*

3.      Applicant's arguments with respect to claims 1-10, 13-16, 34-39 and 42-45

have been considered but are moot in view of the new ground(s) of rejection.

## *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4.      Claims 1-4, 10, 34 and 35 rejected under 35 U.S.C. 102(b) as being

anticipated by Ward; Torbjorn et al. (US 5701294 A, hereafter referred to as

Ward).

35 U.S.C. 102(e) rejection of claims 1-3, 10, 34 and 35.

Ward teaches pre-processing data packets for transmission over the

communications channel including performing a first coding operation on those

data packets to form pre-processed data packets (Speech Coder 21 in Figure 3A

of Ward is a preprocessor for pre-processing data packets for transmission over

the communications channel including performing a first coding operation on

those data packets to form pre-processed data packets); detecting a current

channel condition (See Figure 6 of Ward) and processing the pre-processed data

packets including modulating the pre-processed data packets using a modulation

scheme selected from a group of different modulation schemes based on the

detected current channel condition and coding the pre-processed data packets

using a coding rate selected from a group of different coding rates based on the

detected current channel condition to form processed data packets ready for

transmission over the communications channel (Channel Coder 22 and

Modulator 23 in Figure 3A of Ward are a processor for processing the

pre-processed data packets including modulating there-processed data packets

using a modulation scheme selected from a group of different modulation

schemes based on the detected current channel condition and coding the

pre-processed data packets using a coding rate selected from a group of

different coding rates based on the detected current channel condition to form

processed data packets ready for transmission over the communications

channel; see Abstract in Ward), wherein the pre-processing does not depend on

the current channel condition (the Abstract in Ward teaches any combination of

speech encoding, modulation and channel encoding modified dependent upon

channel condition, hence; is inherently capable of operating whereby the speech

encoding pre-processing does not depend on the current channel condition [see,

e.g., In re Schreiber, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir.

1997) and In re Swinehart, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA

1971)]).


35 U.S.C. 102(e) rejection of claim 4.

TDMA is a wireless communication transmission service hence the error rate is

related to the wireless communication transmission service since it occurs in the

communication channel for the wireless communication transmission service.


### Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described
> as set forth in section 102 of this title, if the differences between the subject matter sought to
> be patented and the prior art are such that the subject matter as a whole would have been
> obvious at the time the invention was made to a person having ordinary skill in the art to which
> said subject matter pertains. Patentability shall not be negatived by the manner in which the
> invention was made.

The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1,

148 USPQ 459 (1966), that are applied for establishing a background for

determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.    Determining the scope and contents of the prior art.

    2.    Ascertaining the differences between the prior art and the claims at
          issue.
    3.    Resolving the level of ordinary skill in the pertinent art.
    4.    Considering objective evidence present in the application indicating
          obviousness or nonobviousness.

5.    Claims 5 and 36 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Ward; Torbjorn et al. (US 5701294 A, hereafter referred to as

Ward) in view of Park; Chang-Soo et al. (US 6397367 B1, hereafter referred to

as Park).


35 U.S.C. 103(a) rejection of claims 5 and 36.

Ward substantially teaches the claimed invention described in claims 1-4 (as

rejected above).

However Ward does not explicitly teach the specific use of fixed rate encoding.

Park, in an analogous art, teaches fixed rate channel encoders in Figures 1-16 of

Park whereby rate adaptation is achieved through puncturing.

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify Ward with the teachings of Park by

including use of fixed rate encoding.  This modification would have been obvious

to one of ordinary skill in the art, at the time the invention was made, because

one of ordinary skill in the art would have recognized that use of fixed rate

encoding would have provided the opportunity to communicate on a W-CDMA

channel.

6.      Claims 6-9, 13-16, 37-39 and 42-44 are rejected under 35 U.S.C. 103(a)

as being unpatentable over Ward; Torbjorn et al. (US 5701294 A, hereafter

referred to as Ward) in view of the 3GPP document (3rd Generation Partnership

Project; Technical Specification Group Group Radio Access Network;

Multiplexing and channel coding (FDD) [3G TS 25.212 version 3.1.0]).


35 U.S.C. 103(a) rejection of claim 6-9, 13-16, 37-39 and 42-44.

Ward substantially teaches the claimed invention described in claim 6 (as

rejected above).

However Ward does not explicitly teach the specific use of combining data

packets.

The 3GPP document, in an analogous art, teaches use of combining data

packets (see TrBk Concatenation And Code Block Segmentation block in Figure

1 on page 9 of the 3GPP document).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify Ward with the teachings of 3GPP

document by including use of combining data packets.  This modification would

have been obvious to one of ordinary skill in the art, at the time the invention was

made, because one of ordinary skill in the art would have recognized that use of

combining data packets would have provided the opportunity to communicate on

a W-CDMA channel that is 3GPP compliant.

7.      Claims 11 and 41 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Ward; Torbjorn et al. (US 5701294 A, hereafter referred to as

Ward).


35 U.S.C. 103(a) rejection of claims 11 and 41.

Ward substantially teaches the claimed invention described in claims 1-4 (as

rejected above).

However Ward does not explicitly teach the specific use of particular modulation

schemes.

The Examiner asserts that the Abstract in Ward teaches processing the

pre-processed data packets including modulating the pre-processed data

packets using a modulation scheme selected from a group of different

modulation schemes which encompasses specific modulation schemes.

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify the teachings of Ward by including use of

particular modulation schemes.  This modification would have been obvious to

one of ordinary skill in the art, at the time the invention was made, because one

of ordinary skill in the art would have recognized that use of particular modulation

schemes would have provided the opportunity to implement the teachings in

Ward.


8.      Claims 18-21 and 45 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Ward; Torbjorn et al. (US 5701294 A, hereafter referred to as

Ward) and the 3GPP document (3rd Generation Partnership Project; Technical

Specification Group Group Radio Access Network; Multiplexing and channel

coding (FDD) [3G TS 25.212 version 3.1.0]) in view of Wicker (Stephen B.

Wicker, "Error Control Systems for Digital Communications and Storage",

Prentice-Hall, 1995, pages 392-409).


35 U.S.C. 103(a) rejection of claims 18 and 45.

Ward and the 3GPP document substantially teaches the claimed invention

described in claims 1-17 (as rejected above).

However Ward and the 3GPP document does not explicitly teach the specific use

of any specific retransmission protocol.

Wicker, in an analogous art, teaches a specific retransmission protocol whereby

processing for the protocol requires waiting for an acknowledgement signal for

each of the data blocks and if an acknowledgement signal is not received for one

of the data blocks, retransmitting the data block (Section 15.2 on Page 402 in

Wicker teaches that each time the transmitter sends out a packet a timer is set

and if a response is not received within a reasonable time period, the transmitter

assumes a retransmission request and retransmits the packet). Wicker teaches

that one of ordinary skill in the art at the time the invention was made would have

been highly motivated to use such a scheme when the feedback channels

experiences noise degradation (Section 15.2 on Page 402 in Wicker).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify Ward and the 3GPP document with the

teachings of Wicker by including use of a specific retransmission protocol whereby processing for the protocol requires waiting for an acknowledgement signal for each of the data blocks and if an acknowledgement signal is not received for one of the data blocks, retransmitting the data block. This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that use of a specific retransmission protocol whereby processing for the protocol requires waiting for an acknowledgement signal for each of the data blocks and if an acknowledgement signal is not received for one of the data blocks, retransmitting the data block would have provided the opportunity to overcome noisy feedback channels.

35 U.S.C. 103(a) rejection of claim 19.

Lines 24-33 on page 398 in Wicker teach that a go-back-N protocol requires buffering in the transmitter to store packets that may need to be retransmitted.

35 U.S.C. 103(a) rejection of claims 20-21.

Since Modulator 23 in Figure 3A of Ward can be adjusted based on the detected current channel conditions, processing may be the same or different depending on the detected channel condition.

9.      Claims 22, 23, 26, 28-30, 46, 47, 50 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ward; Torbjorn et al. (US 5701294 A,

hereafter referred to as Ward) in view of the 3GPP document (3rd Generation

Partnership Project; Technical Specification Group Group Radio Access

Network; Multiplexing and channel coding (FDD) [3G TS 25.212 version 3.1.0]) in

further view of Park; Chang-Soo et al. (US 6397367 B1, hereafter referred to as

Park).

35 U.S.C. 103(a) rejection of claim 22, 23, 26, 28-30, 46, 47, 50 and 52.

Ward teaches pre-processing data packets for transmission over the

communications channel including performing a first coding operation on those

data packets to form pre-processed data packets (Speech Coder 21 in Figure 3A

of Ward is a preprocessor for pre-processing data packets for transmission over

the communications channel including performing a first coding operation on

those data packets to form pre-processed data packets); detecting a current

channel condition (See Figure 6 of Ward) and processing the pre-processed data

packets including modulating the pre-processed data packets using a modulation

scheme selected from a group of different modulation schemes based on the

detected current channel condition and coding the pre-processed data packets

using a coding rate selected from a group of different coding rates based on the

detected current channel condition to form processed data packets ready for

transmission over the communications channel (Channel Coder 22 and

Modulator 23 in Figure 3A of Ward are a processor for processing the

pre-processed data packets including modulating there-processed data packets

using a modulation scheme selected from a group of different modulation

schemes based on the detected current channel condition and coding the

pre-processed data packets using a coding rate selected from a group of

different coding rates based on the detected current channel condition to form

processed data packets ready for transmission over the communications

channel; see Abstract in Ward), wherein the pre-processing does not depend on

the current channel condition (the Abstract in Ward teaches any combination of

speech encoding, modulation and channel encoding modified dependent upon

channel condition, hence; is inherently capable of operating whereby the speech

encoding pre-processing does not depend on the current channel condition [see,

e.g., In re Schreiber, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir.

1997) and In re Swinehart, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA

1971)]]).

However Ward does not explicitly teach the specific use of combining data

packets.

The 3GPP document, in an analogous art, teaches use of combining data

packets (see TrBk Concatenation And Code Block Segmentation block in Figure

1 on page 9 of the 3GPP document).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify Ward with the teachings of 3GPP

document by including use of combining data packets. This modification would

have been obvious to one of ordinary skill in the art, at the time the invention was

made, because one of ordinary skill in the art would have recognized that use of

combining data packets would have provided the opportunity to communicate on

a W-CDMA channel that is 3GPP compliant.

However Ward and the 3GPP document does not explicitly teach the specific use

of fixed rate encoding with puncturing.

Park, in an analogous art, teaches fixed rate channel encoders in Figures 1-16 of

Park whereby rate adaptation is achieved through puncturing.

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify Ward and the 3GPP document with the

teachings of Park by including use of fixed rate encoding. This modification

would have been obvious to one of ordinary skill in the art, at the time the

invention was made, because one of ordinary skill in the art would have

recognized that use of fixed rate encoding would have provided the opportunity

to communicate on a W-CDMA channel.


10.     Claims 31-33 and 53 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Ward; Torbjorn et al. (US 5701294 A, hereafter referred to as

Ward, the 3GPP document (3rd Generation Partnership Project; Technical

Specification Group Group Radio Access Network; Multiplexing and channel

coding (FDD) [3G TS 25.212 version 3.1.0]) and of Park; Chang-Soo et al. (US

6397367 B1, hereafter referred to as Park) in view of in view of Wicker (Stephen

B. Wicker, "Error Control Systems for Digital Communications and Storage",

Prentice-Hall, 1995, pages 392-409).

35 U.S.C. 103(a) rejection of claims 31 and 53.

Ward and the 3GPP document substantially teaches the claimed invention described in claims 1-17 (as rejected above).

However Ward and the 3GPP document does not explicitly teach the specific use of any specific retransmission protocol.

Wicker, in an analogous art, teaches a specific retransmission protocol whereby processing for the protocol requires waiting for an acknowledgement signal for each of the data blocks and if an acknowledgement signal is not received for one of the data blocks, retransmitting the data block (Section 15.2 on Page 402 in Wicker teaches that each time the transmitter sends out a packet a timer is set and if a response is not received within a reasonable time period, the transmitter assumes a retransmission request and retransmits the packet). Wicker teaches that one of ordinary skill in the art at the time the invention was made would have been highly motivated to use such a scheme when the feedback channels experiences noise degradation (Section 15.2 on Page 402 in Wicker). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ward and the 3GPP document with the teachings of Wicker by including use of a specific retransmission protocol whereby processing for the protocol requires waiting for an acknowledgement signal for each of the data blocks and if an acknowledgement signal is not received for one of the data blocks, retransmitting the data block. This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have

recognized that use of a specific retransmission protocol whereby processing for

the protocol requires waiting for an acknowledgement signal for each of the data

blocks and if an acknowledgement signal is not received for one of the data

blocks, retransmitting the data block would have provided the opportunity to

overcome noisy feedback channels.


35 U.S.C. 103(a) rejection of claims 32 and 33.

Lines 24-33 on page 398 in Wicker teach that a go-back-N protocol requires

buffering in the transmitter to store packets that may need to be retransmitted.


### *Conclusion*

11.    Applicant's amendment necessitated the new ground(s) of rejection

presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**.

See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as

set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed

within TWO MONTHS of the mailing date of this final action and the advisory

action is not mailed until after the end of the THREE-MONTH shortened statutory

period, then the shortened statutory period will expire on the date the advisory

action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

calculated from the mailing date of the advisory action. In no event, however, will

the statutory period for reply expire later than SIX MONTHS from the date of this

final action.


Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Joseph D. Torres whose telephone number is

(571) 272-3829. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone

number for the organization where this application or proceeding is assigned is

703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR

only. For more information about the PAIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-

free).

Joseph D. Torres, PhD
Primary Examiner
Art Unit 2133